

Appendix D

Monitoring Plan

Monitoring assesses whether the Project was implemented as designed and if the Project implementation direction (Appendices B and C) was effective in protecting natural resources and their beneficial uses. Two types of monitoring are conducted on the Superior National Forest: 1) effectiveness monitoring, and 2) implementation monitoring.

Effectiveness Monitoring

Effectiveness monitoring addresses how well management actions achieve desired outcomes or objectives that are identified in the Forest Plan. The National Forest Management Act (NFMA) requires that National Forests monitor and evaluate their forest plans (36 CFR 219.11). Also see Chapter 4 of the Forest Plan. This kind of monitoring is conducted over the entire Forest on a periodic basis and the monitoring results are used on future projects. Forest Plan monitoring results can be found in the Annual Forest Plan Monitoring Report, available at the Superior National Forest Supervisor's Office in Duluth, Minnesota.

Implementation Monitoring

Implementation monitoring is tied to specific projects and the monitoring plan for the Border Project is described in more detail below, along with some key implementation information such as actual clauses used in timber sale contracts.

Implementation monitoring assesses whether the Project was implemented as designed, and whether Project implementation complies with the decision made on this Project. Implementation monitoring is designed to answer, "Did we do what we said we were going to do?" The following outline describes the kind of implementation monitoring that would be performed for this Project by resource subjects if an action alternative is selected for implementation. In addition, the Project interdisciplinary team would periodically review the Project implementation as a whole during field trips and follow-up meetings. If monitoring indicates Project implementation is not occurring as planned, measures would be taken immediately to correct the actions. For example, if timber sale layout does not correctly meet design features for a resource area, or mitigations have not been met, changes would be made prior to the sale being sold; likewise, if a sale contractor is non-compliant during contract administration, operations would cease until compliance is assured.

A. Harvest Design and Operation

Implementation

1. All timber sale harvest activities would be monitored for contract compliance by the timber sale administrator with regular on site inspections. Inspection reports are located at the Forest Service district office.
2. All contract provisions would be reviewed with the timber sale operator prior to harvest activities occurring.
3. Timber sale contract provision BT6.6– Erosion Prevention and Control is a standard provision that would be monitored for compliance by the timber sale administrator with regular on site inspections.

4. Timber sale contract provision BT6.34 – Sanitation and Servicing, requires timber sale purchasers to maintain all equipment operating on a sale area in good repair and free of abnormal leakage of lubricants, fuel, coolants, and hydraulic fluid. Purchaser cannot service tractors, trucks, or other equipment on National Forest lands where servicing is likely to result in pollution to soil or water. BT6.341 – Prevention of Oil Spills requires a purchaser to take appropriate preventative measures to ensure that any spill of oil or oil products does not enter any stream or other waters of the United States or any of the individual states. This provision also requires the purchaser to notify the Forest Service and other appropriate agencies should any spills occur, and purchaser must take whatever initial actions may be safely accomplished to contain all spills. BT6.342 – Hazardous Substances, requires the purchaser to notify the Forest Service and the National Response Center of all releases of reportable quantities of hazardous substances on or in the vicinity of the sale area that are caused by the purchaser's operations. Harvest units would be monitored for contract compliance by the timber sale administrator with regular on site inspections.
5. Timber sale contract provision CT6.314# – Operation Requirements, would be included in the timber sale contract when harvest operations are restricted to a specific operating season or specific ground conditions.

Monitoring

Objective: Ensure that implementation direction (Appendices B and C) identified for each treatment unit (such as for wildlife, riparian, recreation, scenery, and soils) are included in contracts and implemented according to plan.

Methods and Frequency: Review contracts to ensure implementation direction (Appendices B and C) is included and visit units while activity is progressing. Reviews of contract compliance would be documented in inspection reports.

Responsibility: Sale Administrator, Forest Service Representative, or Contracting Officer's Representative

B. Non-native Invasive (NNIS) Plants and Native Plants

Implementation

1. Timber sale contract provision BT6.35 –Equipment Cleaning, is a standard provision in the timber sale contract. This provision would be administered in cutting units with known locations of NNIS. The timber sale administrator would monitor for compliance. On site inspections are documented in inspection reports and filed at the Forest Service district office.

Monitoring

Objective: Minimal to no increase in the extent and rate of spread of non-native invasive plants in the Project area.

Methods: Monitor a sample of harvest units and newly constructed roads after harvest, site preparation, or road construction to determine if invasive plants have colonized areas where management activities have occurred. Provide training to sale administrators and other Forest personnel to recognize invasive plants.

Responsibility: District Biologist, Sale Administrators, Forestry Technicians, and Forest Plant Ecologist

C. Terrestrial and Aquatic Wildlife, Regional Forester Sensitive Species, and Management Indicator Species

Implementation

See implementation direction (Appendices B and C) for these resource areas.

Monitoring

Objective: To what extent have Project design and implementation provided ecological conditions for maintaining viable populations of native and desired non-native species?

Methods: Visual inspections and surveys of sites within the Project area.

Responsibility: Wildlife Biologist

D. Heritage Resources

Implementation

1. BT6.24 - Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources, is a standard contract provision that relates protection standards for known historic and cultural sites.
2. Also, see implementation direction (Appendices B and C) for Heritage Resources.

Monitoring

Objective: Determine if known heritage resources have been protected and are not impacted by vegetation management or road activities.

Methods: Visual inspection of site and comparison to site maps by Heritage Resource or District personnel during and after Project implementation.

Responsibility: Heritage Resource Program Manager or other District personnel

E. Watershed Health, Riparian Areas, and Soil Resources

Implementation

1. Timber sale contract provision CT6.7– Slash Disposal, outlines specific slash disposal requirements for each harvest unit. This provision would

be included in the timber sale contract and administered on the ground by the timber sale administrator during harvest operations. On site inspections are documented in inspection reports and filed at the Forest Service district office.

2. Timber sale contract provision BT6.34 – Sanitation and Servicing, is a standard provision for preventing pollution of air, soil, and water by the purchaser's operations. Harvest units would be monitored for contract compliance by the timber sale administrator with regular on site inspections. Inspection reports are located at the Forest Service district office.
3. Timber sale contract provisions BT 6.5 - Streamcourse Protection, BT6.6 - Erosion Prevention and Control, and BT6.62 - Wetlands Protection, are standard provisions that would be monitored for compliance by the timber sale administrator during harvest operations. On site inspections are documented in inspection reports and filed at the Forest Service district office.
4. Timber sale contract provision CT6.314# - Operating Requirements, would be included in the timber sale contract when harvest operations are restricted to a specific operating season or specific ground conditions.
5. Timber sale contract provisions BT6.6 -Erosion Prevention and Control, and BT6.62 - Wetlands Protection, are standard provisions that would be monitored for compliance by the timber sale administrator during harvest operations. On site inspections are documented in inspection reports and filed at the Forest Service district office.
6. Also see implementation direction (Appendices B and C) for Watershed Health, Riparian Areas, and Soil Resources.

Monitoring

Objectives: Ensure that soil and water quality resource values are protected during and following harvesting activities, closure of all temporary roads, decommissioning of existing roads, and other Project activities.

Methods: See A. Harvest Design and Operation.

Responsibility: Soil Scientist, Silviculturist, Ecologist (and see A. Harvest Design and Operation)

F. Prescribed Burning

Implementation

See implementation direction (Appendices B and C) for Air Quality and Smoke Management and Insects, Disease, and Disturbance Processes and A. Harvest Design and Operation.

Monitoring

Objective: Ensure that public safety considerations and implementation direction (Appendices B and C) are included in all burn plans and that burn plans are conducted according to plan.

Methods: Review prescribed burn plans. Conduct pre-treatment field visits to all prescribed pile burn treatment units to prepare fire control lines and examine fuel conditions. Monitor weather conditions before and during treatment periods. Alert adjacent landowners downwind of the pile burn treatments prior to implementation.

Responsibility: West Zone Fire Management Officer

G. Scenic Quality**Implementation**

1. Timber sale contract provision CT6.7– Slash Disposal, outlines specific slash disposal requirements for each harvest unit. This provision would be included in the timber sale contract and administered on the ground by the timber sale administrator during harvest operations. On site inspections are documented in inspection reports and filed at the Forest Service district office.
2. Also see implementation direction (Appendices B and C) for Scenic Resources.

Monitoring - See A. Harvest Design and Operation.

H. Recreation and Public Safety**Implementation**

1. Timber sale contract provision BT6.33 – Safety, is a standard provision in the contract. Sign locations would be depicted on the Sale Area Map.
2. Timber sale contract provision CT6.314# – Operation Requirements, would be included in the timber sale contract when harvest operations are restricted to a specific operating season or specific ground conditions.

Monitoring

See A. Harvest Design and Operation and implementation direction (Appendices B and C) for Recreation and Public Health.

I. Gravel Pits**Implementation**

1. A pit management plan would be developed for each gravel pit.

Monitoring

Objective: Ensure gravel pits are used according to pit management plans.

Methods: Field visits and reports by resource specialists.

Responsibility: Engineering Staff

J. National Forest System Roads**Implementation**

1. Timber sale contract provision CT6.314# – Operation Requirements, would be included in the timber sale contract when harvest operations are restricted to a specific operating season or specific ground conditions.
2. Also see implementation direction (Appendices B and C) for Transportation Systems.

Monitoring Road Closures and Road Decommissioning

Objective: Ensure that roads are closed in a manner that either fully decommissions the road or excludes specified motorized vehicle use. Ensure that soil and water quality resource values are protected following closure of all temporary, and other closed roads.

Methods: Review contracts and permits. For recently closed temporary, decommissioned, and other closed roads, field surveys would be conducted at least once during the first five years following road closure in order to verify revegetation of the road corridor and stability of streambanks at former stream crossings. Field surveys would also be conducted periodically to determine the effectiveness of closures and identify additional work that may be required. Monitoring for illegal ATV use on closed roads would occur more frequently where past problems have occurred. In addition, enforcement would also respond to reports of illegal use.

Responsibility: Engineering Staff, Recreation and Law Enforcement Staff

K. Temporary Roads**Implementation**

1. Temporary road locations would be agreed upon between the Forest Service and the timber sale purchaser prior to construction. The agreement would be documented in the timber sale inspection reports, filed at the district office.
2. Timber sale contract provision CT6.63# - Temporary Road Closure, would be included in the contract to ensure the desired type and degree of road closure is achieved. The timber sale administrator would monitor compliance during road closure activities. On site inspections are documented in inspection reports and filed at the Forest Service district office.
3. Also see implementation direction (Appendices B and C) for Transportation Systems.

Monitoring Road Closure

See J. National Forest System Roads, Monitoring Road Closures and Road Decommissioning, L. Special Use Road Authorizations.

Implementation

1. Special Use Permits would be issued for all special road use authorizations.

Monitoring

Objective: Ensure road use activities are implemented according to the special use authorization.

Methods: Administration of Special Use authorization

Responsibility: Special Uses Resource Assistant

M. Reforestation and Site Preparation

Implementation

1. Release and weed activities would be implemented through a Timber Stand Improvement service contract administered by the District Contracting Officer Representative (COR).
2. Site Preparation activities would be implemented through a Site Preparation service contract administered by the District COR.
3. Planting activities would be implemented through a Planting service contract administered by the District COR.

Monitoring

Objective - Reforestation: Ensure that harvested stands are reforested to desired species within five years of treatment.

Methods and Frequency:

1. All stands harvested using even-aged management techniques for natural regeneration would be monitored during the third and fifth years after harvest to determine if stands are adequately stocked. Stands may be planted if natural regeneration does not provide adequate stocking.
2. All stands harvested and restored to conifers would be monitored during the first and third years after harvest to determine survival and stocking success. Stands that are planted would be reviewed for possible hand or mechanical site preparation needs. The need for disease-control operations and treatments to release young stands from competing species would be monitored at this time.
3. Non-harvested stands with diversity planting or under-planting would be monitored to determine if planted trees survived. Additional monitoring beyond five years may be needed.

4. Harvest on ELT 18 would be monitored for successful reforestation within the 5-year period.

Objective – Timber Stand Improvement: Ensure plantations are producing healthy and vigorous regeneration of the desired tree species; determine if release and weed activities would be necessary to release desired tree species from competition with undesirable tree species.

Methods: Cut all undesirable tree species under four inches diameter from around the perimeter of the desired tree species.

Responsibility: West Zone Silviculturist